

Roger Bennett  
Maplehurst Bakeries, Inc.  
50 Maplehurst Drive  
Brownsburg, Indiana 46112

Re: Registered Construction and Operation Status,  
**CP 063-12270-00031**

Dear Roger Bennett:

The application from Maplehurst Bakeries, Inc., received on October 1, 1999, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following operation of bakery unit for manufacturing bakery products, to be located at 50 Maplehurst Drive, Brownsburg, Indiana 46112, is classified as registered:

- (a) four (4) natural gas fired ovens identified as Moline I, Moline II, Moline III and a BCS oven with maximum capacities of 1167, 1750, 417 and 972 pounds per hour of premix dough and water, respectively, and rated capacities of 1.4, 1.4, 1.4, and 1.0 MMBtu per hour, respectively, exhausting to stacks 1, 2, 3, & 5;
- (b) one (1) natural gas fired boiler identified as Ajax with rated capacity of 6.3 MMBtu per hour exhausting to the stack no.6;

The following conditions shall be applicable:

- 1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- 2. Pursuant to 326 IAC 6-3, the particulate matter (PM) from the baking operation shall be limited to 6.85 pounds per hour as determined by the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.1 (P)^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

- 3. Pursuant to 326 IAC 6-2-4, the particulate matter (PM) from the boiler shall be limited to 0.67 pounds per million BTU heat input as per the following:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where Pt = Pounds of particulate matter emitted per million Btu heat input.  
Q= Total source maximum operating capacity rating in million Btu per hour heat input.

4. Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.1.

An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

**Compliance Data Section  
Office of Air Management  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

GS

cc: File - Hendricks County  
Hendricks County Health Department  
Air Compliance – Marc Goldman  
Permit Tracking - Janet Mobley  
Technical Support and Modeling - Michele Boner  
Compliance Data Section - Karen Nowak  
Office of Enforcement

<b>Registration Annual Notification</b>
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This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3)

<b>Company Name:</b>	Maplehurst Bakeries, Inc.
<b>Address:</b>	50 Maplehurst Drive
<b>City:</b>	Brownsburg, Indiana 46112
<b>Authorized individual:</b>	Roger Bennett
<b>Phone #:</b>	(317) 858-9000
<b>Registration #:</b>	CP 063-12270-00031

I hereby certify that operation to manufacture bakery products is still in operation and is in compliance with the requirements of Registration CP 063-12270-00031.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

## **Indiana Department of Environmental Management Office of Air Management**

### **Technical Support Document (TSD) for a Registration**

#### **Source Background and Description**

**Source Name:** Maplehurst Bakeries, Inc.  
**Source Location:** 50 Maplehurst Drive, Brownsburg, Indiana **46112**  
**County:** Hendricks  
**SIC Code:** 2051  
**Operation Permit No.:** CP 063-12270-00031  
**Permit Reviewer:** Gurinder Saini

The Office of Air Management (OAM) has reviewed an application from Maplehurst Bakeries, Inc. relating to the construction and operation of a bakery unit for manufacturing bakery products.

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) four (4) natural gas fired ovens identified as Moline I, Moline II, Moline III and a BCS oven with maximum capacities of 1167, 1750, 417 and 972 pounds per hour of premix dough and water, respectively, and rated capacities of 1.4, 1.4, 1.4, and 1.0 MMBtu per hour, respectively, exhausting to stacks 1, 2, 3, & 5;
- (b) one (1) natural gas fired boiler identified as Ajax with rated capacity of 6.3 MMBtu per hour exhausting to the stack no.6;

#### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

#### **Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP 063-10137-00031, issued on November 18, 1998; and
- (b) CP 063-3699-00031, issued on June 20, 1994.

All conditions from previous approvals were incorporated into this permit.

## Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
Stack 1	Combustion	25	1.0	450	600
Stack 2	Combustion	25	1.0	450	600
Stack 3	Combustion	25	0.83	450	600
Stack 4	Combustion	25	0.83	450	600
Stack 5	Combustion	25	1.0	450	600
Stack 6	Boiler	25	1.67	500	600

## Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled permitted Emission Units and Pollution Control Equipment.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

## Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on May 12, 2000.

## Emission Calculations

See Appendix A page 1 – 6 of this document for detailed emissions calculations.

## Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.®

Pollutant	Potential To Emit (tons/year)
PM	0.4
PM-10	0.4
SO <sub>2</sub>	0.0
VOC	19.6
CO	3.9
NO <sub>x</sub>	4.7

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is greater than 5 tons per year and less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 for Registration.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions  
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

#### Actual Emissions

No previous emission data has been received from the source.

#### County Attainment Status

The source is located in Hendricks County.

Pollutant	Status ( <b>attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment</b> )
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Hendricks County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Hendricks County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

## Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.4
PM10	0.4
SO <sub>2</sub>	0.0
VOC	19.6
CO	3.9
NO <sub>x</sub>	4.7
Single HAP	0.0
Combination HAPs	0.0

- (a) This new source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

## Part 70 Permit Determination

### 326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

## Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

## State Rule Applicability - Entire Source

### 326 IAC 2-6 (Emission Reporting)

This source is located in Hendricks County which is not one of the listed counties, and the potential to emit criteria pollutants is less than hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

### 326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### **State Rule Applicability - Individual Facilities**

##### **326 IAC 6-3-2 (Particulate Emissions Limitations)**

The particulate matter emissions from the baking operation is subject to 326 IAC 6-3-2. Pursuant to 326 IAC 6-3-2, the particulate matter emissions from the baking operation shall be limited to 6.85 pounds per hour based on the following equation:

$$E = 4.10P^{0.67} \quad \text{where: } E = \text{rate of emission in pounds per hour,} \\ P = \text{process weight in tons per hour, if}$$

P is equal to or less than 60,000 lbs/hr (30 tons/hr)

##### **326 IAC 8-1-6 (New Facilities, General Reduction Requirements)**

The VOC emissions from the combustion of natural gas in the ovens is not subject to the provisions of 326 IAC 8-1-6 because the potential VOC emissions are less than 25 tons per year. There are no other 326 IAC 8 rules that apply to this source.

##### **326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)**

The gas fired ovens are not subject to the rule 326 IAC 7-1 because the potential and the actual emissions are less than 25 tons per year and 10 pounds per hour respectively.

##### **326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)**

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the 6.3 MMBtu per hour heat input from Ajax Boiler shall be limited to 0.67 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where Pt = Pounds of particulate matter emitted per million Btu heat input.

Q= Total source maximum operating capacity rating in million Btu per hour heat input.

#### **Conclusion**

The construction and operation of this bakery unit for manufacturing bakery products shall be subject to the conditions of the attached proposed Registered Construction and Operation Status 063-12270-00031.



## **Appendix A**

### **Emissions calculations:**

#### **Source Background and Description**

Source Name:	Maplehurst Bakeries, Inc.
Source Location:	50 Maplehurst Drive, Brownsburg, Indiana
County:	Hendricks
Construction Permit No.:	CP No. 063-12270
SIC Code:	2051
Permit Reviewer:	Gurinder Saini

SCC # 3-02-032-02 Bread & Doughnut Baking  
Maximum of 8306 lbs/hr of Bread & Doughnut baking.

Process weight rate = 4306 lbs/hr x 1 ton /2,000 lbs  
= 2.15 tons/hr

Potential VOC emissions:

VOC Emission Factor     $\text{VOC EF} = 0.95 (Y_i) + 0.195 (t_i) - 0.51 (S) - 0.86 (t_s) + 1.90$   
(as per AP 42 Section 9.9.6 "Bread Baking")

$\text{VOC EF} = 0.95*0.03 + 0.195*(42/60) - 0.51*0 - 0.86*0 + 1.90$   
Details supplied in Application filed on September 14, 1998

$\text{VOC EF} = 2.06 \text{ lb VOC / ton of product}$

Potential VOC emissions = Process weight rate x Emission factor

= 2.15 ton/hr x 2.06 lb/ ton

= 4.43 lb/hr

= 106.3 lb/day

= 19.4 tons/yr.

#### **Allowable PM emissions from the breads, doughnuts and other baking products :**

Max. throughput rate = ( 1167 + 1750 + 417 + 972 ) lbs/hr.

= 4306 lb/hr

= 4.15 tons/hr

Based on the total process weight rate, the allowable emission from the process operation would be

$$\begin{aligned}
 E &= 4.1(P)^{0.67} \text{ where } P \text{ is the process weight in tons/hr} = 4306/2,000 = 2.15 \text{ tons/hr} \\
 &= 4.1(2.15)^{0.67} \\
 &= 6.85 \text{ lbs/hr.} \\
 &= 164.4 \text{ lbs/day} \\
 &= 30.0 \text{ tons/yr.}
 \end{aligned}$$

Allowable emissions as calculated above are 30.0 tons/yr or 6.85 lb/hour.

The potential emissions are listed in the following table based on the VOC calculation for the baking process above and other emissions from oven and boiler as shown in the following pages. All emissions are listed in tons per year.

Equipment/ Operation	PM/PM10 (tons/yr)	SO <sub>2</sub> (tons/yr)	NO <sub>x</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	HAP-s (tons/yr)
Combustion	0.4	0.0	4.7	0.2	3.9	0.0
Doghnut Baking	0.0	0.0	0.0	19.4	0.0	0.0
Total	0.4	0.0	4.7	19.6	3.9	0.0

The potential particulate matter (PM) emissions in the above table are less than the allowable emissions of 30.0 tons/year. Therefore, the baking operation is in compliance with the rule 326 IAC 6-3-2.

Since the potential emissions of VOC are less than 25 tons per year, a Registration will be issued.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**

**Ovens**

**Company Name: Maplehurst Bakeries, Inc.**  
**Address City IN Zip: 50 Maplehurst Drive, Brownsburg, Indiana 46112**  
**CP: 063-12270**  
**Plt ID: 063-00031**  
**Reviewer: Gurinder Saini**  
**Date: 01-Jun-00**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

5.2

45.6

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.2	0.0	2.3	0.1	1.9

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**

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**Ovens**

**HAPs Emissions**

**Company Name: Maplehurst Bakeries, Inc.**  
**Address City IN Zip: 50 Maplehurst Drive, Brownsburg, Indiana 46112**  
**CP: 063-12270**  
**Plt ID: 063-00031**  
**Reviewer: Gurinder Saini**  
**Date: 01-Jun-00**

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	e 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.783E-05	2.733E-05	1.708E-03	4.100E-02	7.744E-05

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.139E-05	2.505E-05	3.189E-05	8.655E-06	4.783E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

## Appendix A: Emissions Calculations

### Natural Gas Combustion Only

MM BTU/HR <100

### Small Industrial Boiler

Company Name: Maplehurst Bakeries, Inc.

Address City IN Zip: 50 Maplehurst Drive, Brownsburg, Indiana 46112

CP: 063-12270

Pit ID: 063-00031

Reviewer: Gurinder Saini

Date: 01-Jun-00

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

6.3

55.2

### Pollutant

Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
				100.0		
	1.9	7.6	0.6	**see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.2	0.0	2.8	0.2	2.3

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Small Industrial Boiler**

**HAPs Emissions**

**Company Name: Maplehurst Bakeries, Inc.**

**Address City IN Zip: 50 Maplehurst Drive, Brownsburg, Indiana 46112**

**CP: 063-12270**

**Pit ID: 063-00031**

**Reviewer: Gurinder Saini**

**Date: 01-Jun-00**

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.795E-05	3.311E-05	2.070E-03	4.967E-02	9.382E-05

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.380E-05	3.035E-05	3.863E-05	1.049E-05	5.795E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.